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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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DEERE & COMPANY				
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MOLINE, IL 61265				
EXAMINER				
COOLMAN, VAUGHN				
ART UNIT		PAPER NUMBER		
3618				
MAIL DATE		DELIVERY MODE		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/574,128

Applicant(s)

TARASINSKI ET AL.

Examiner

VAUGHN T. COOLMAN

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 April 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 2 and 4-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4, 5 and 7-9 is/are rejected.
- 7) ☒ Claim(s) 6 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/226)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date _____

DETAILED ACTION

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the subject matter of claims 2 (modular configuration of torque tube), 4 (power electronics component arranged on the vehicle axle), and 9 (electric interface) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 2, 4, 5, 7, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mollhagen (U.S. Patent No. 7,147,073 B2) in view of Ono et al (U.S. Patent Application Publication No. US 2004/0079574 A1) and Prem et al (U.S. Patent No. 6,086,076).

[claim 1] Mollhagen discloses a vehicle axle system having a vehicle axle supported for oscillation and having wheels (8) rotatably attached to the vehicle axle and having a torque tube (2) with one end connected to the vehicle axle for supporting an axle suspension (not shown), and having an electric drive (4) arranged on the vehicle axle for driving one of the wheels.

Mollhagen fails to disclose electric components for the electric drive being mounted to the torque tube. Ono teaches electric components (30, 31) for an electric drive being mounted to a support arm (20) and including a power electronics component (30) for controlling electric power delivered to the electric drive. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus shown by Mollhagen with the electric component mounting of Ono in order to provide the advantage of reducing the distance between the motor control unit and the electric drive and thus improving resistance to electrical noise.

Mollhagen does not explicitly disclose an axle suspension but does state that rocker arms (2) are “supported in a suitable manner”. Prem teaches an axle suspension (FIG 8) for a vehicle similar to the vehicle of Mollhagen. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus shown by Mollhagen with the axle suspension of Prem in order to provide the advantage of supporting the rocker arm of Mollhagen in a suitable manner.

[claim 2] Prem further teaches a torque tube (120) having an essentially circular cross section and assembled from several parts (FIG 8) and, inasmuch as applicant has, has a modular configuration.

[claim 4] The combination would further show the power electronics component being arranged on the vehicle axle. Examiner notes that inasmuch as the applicant’s power electronics component (40) is arranged on a vehicle axle, the combination would also disclose the claimed “arrangement”.

[claim 5] Mollhagen in view of Ono and Prem discloses all of the elements of the claimed invention as described above except for an electric generator and a frequency

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converter associated therewith. Examiner notes that providing an electric generator (such as alternators, generators, or motor-generators) is old and well known in the art and it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus shown by Mollhagen with an electric generator as was known in the art in order to provide the advantage of reducing the electrical load on the engine and/or vehicle batteries. Examiner further notes that frequency converters such as inverters are also old and well known in the art and are commonly used (and obvious to one of ordinary skill in the art at the time the invention was made) to provide the advantage of converting alternating current to direct current (for storage in a battery or to drive a DC motor) and vice versa (to run vehicle electrical accessories such as headlights and radio).

[claim 7] Ono further teaches the electronics component being a controller (30).

[claim 9] Examiner notes that electric interfaces (plugs as noted in applicant's specification) are extremely old and well known in the vehicle art to connect a first electrical line to a second electrical line and it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus shown by Mollhagen with an electrical interface in order to provide the advantage of reducing the difficulty of assembling/disassembling the vehicle during manufacture or routine maintenance.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mollhagen in view of Ono and Prem and further in view of Altherr et al (U.S. Patent No. 5,879,016).

[claim 8] Mollhagen discloses all of the elements of the claimed invention as described above except for the vehicle axle being steerable. Altherr teaches a vehicle having a vehicle axle (10) supported in a manner similar to that of Mollhagen. Glaser further teaches the axle being steerable. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus shown by Mollhagen as modified by Ono and Prem by utilizing the apparatus with the steerable axle of Altherr in order to provide the advantage of increased traction for the vehicle.

Allowable Subject Matter

Claim 6 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Please see attached form PTO-892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to VAUGHN T. COOLMAN whose telephone number is (571)272-6014. The examiner can normally be reached on Monday thru Friday, 10am-8pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Dickson can be reached on (571) 272-7742. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

VAUGHN T COOLMAN
Examiner
Art Unit 3618

/V. T. C./
Examiner, Art Unit 3618

/LESLEY D MORRIS/
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